

## DETAILED ACTION

### ***Amendment to the Claims***

The amendment filed on 09/20/2005 canceling claims 1-19 and adding Claims 19-35.

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

*Miniaturised Keyboard With Desktop And Handheld Configurations.*

### ***Claim Objections***

2. Claim 28 is objected to because of the following informalities: the recitation of the claim" ***whereinwhen the keyboard is moved to the hand-held configuration the first keyboard section is deactivated.***" Should have been rewritten as "***whereinwhen the keyboard is moved to the hand-held configuration and the main screen is moved to a second position, the first keyboard section is deactivated.***".

Because the first keyboard section is NOT deactivated when only the keyboard is moved to the hand-held configuration (Col. 2, [0041], [0043], FIG. 3(b) & 4) and only

when the main screen moved to the closed position, the first keyboard section is deactivated (Col. 3, [0047]).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims **19-22** and **35** are rejected under 35 U.S.C. 102(b) as being anticipated by **Willner (US Patent No. 5790103)**.

Regarding Claim **19**, **Willner** teaches a keyboard for use by an operator, comprising:

a first keyboard section containing a plurality of character input keys (Col. 6, Ln. **59-68**, FIG. **1C**);

a second keyboard section containing a plurality of command input keys (Col. 5, Ln. **67-68**, Col. 6, Ln. **1-12**, FIG. **1B**);

and a first hinge that connects the keyboard sections (Col. 9, Ln. **55-64**, FIG. **2A**) so as to enable the keyboard to move between a desktop configuration, when the first hinge is in an open position, and a hand-held configuration, when the first hinge is in a closed position, such that the character input keys and the command input keys are accessible for use by an operator in both configurations which are inherent since both sections' keys are used in combinations.

Regarding Claim **20**, **Willner** teaches a keyboard as claimed in claim 19, wherein the plurality of character input keys comprise keys for inputting printable characters selected from the group consisting of alpha numeric, symbols and punctuation characters (Col. **6**, Ln. **55-58**, FIG. **1C**).

Regarding Claim **21**, **Willner** teaches a keyboard as claimed in claim 19, wherein the plurality of command input keys comprise keys for inputting commands selected from the group consisting of tab, capitals lock, numbers lock, shift, control, alt, back space, insert, delete, home, end, page up, page down, mouse control, escape, and function keys (Col. **5**, Ln. **52-58**, FIG. **1B**).

Regarding Claim **22**, **Willner** teaches a keyboard as claimed in claim 19, wherein the keyboard further comprises a connection means for connecting the keyboard to a remote computer system (Col. **6**, Ln. **57-60**, FIG. **1D**).

Regarding Claim **35**, **Willner** teaches a keyboard as claimed in claim 19, wherein the character input keys and the command keys comprise keys that are ergonomically shaped (Col. **3**, Ln. **2-4**).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims **26** and **34** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Willner (US Patent No. 5790103)**.

Regarding Claim **26**, a keyboard as claimed in claim 19, wherein the first and second keyboard sections comprise side cut recesses (Col. **3**, Ln. **2-4**) which is an obvious Designer Choice for the benefit of ergonomically holding both the first and second keyboard sections.

Regarding Claim **34**, a keyboard as claimed in claim 19, wherein the keyboard is made of a plastic material which is well-known in the art.

5. Claims **23**, **28**, and **31-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Willner (US Patent No. 5790103)** in view of **Sternglass et al. (US Patent No. 5995025)**.

Regarding Claim **23**, **Willner** teaches a keyboard as claimed in claim 22.

However, **Willner** does not teach that the connection means comprises a signal transmitter.

In the same field of endeavor, **Sternglass et al.** teach that the connection means comprises a signal transmitter (Col. **8**, Ln. **1-5**) for the benefit of interfacing the keyboard wirelessly with the computer system.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Willner** teaching of keyboard to **Sternglass et al.** teaching of the connection means comprises a signal transmitter in order to benefit of interfacing the keyboard wirelessly with the computer system.

Regarding Claim **28**, **Willner** teaches a keyboard as claimed in claim 19.

However, **Willner** does not teach that when the main screen is moved to a second position (closed position), the first keyboard section is deactivated.

In the same field of endeavor, **Sternglass et al.** teach that the keyboard further comprises a main screen (Col. **13**, Ln. **22-30**, FIG. **1B**) wherein when the keyboard is moved to the hand-held configuration and the main screen is moved to a second position (closed position), the first keyboard section is deactivated which is well-known in the art for the benefit of reducing power consumption by automatically turning off the system when the screen is closed.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Willner** teaching of keyboard to **Sternglass et al.** teaching of a main screen in order to benefit of reducing power consumption by automatically turning off the system when the screen is closed.

Regarding Claim **31**, **Willner** teaches a keyboard as claimed in claim 19.

However, **Willner** does not teach that the keyboard further comprises a main screen.

In the same field of endeavor, **Sternglass et al.** teach that the keyboard further comprises a main screen (Col. **13**, Ln. **22-30**, FIG. **1B**) for the benefit of interfacing between operator and computer system via input/output devices.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Willner** teaching of a keyboard to **Sternglass et al.**

teaching of a display in order to benefit of interfacing between operator and computer system via input/output devices.

Regarding Claim **32**, a keyboard as claimed in claim 31, wherein **Sternglass et al.** teach that the main screen is pivotally attached to the first keyboard section by a second hinge so as to enable the main screen to move between a first position where the main screen can be viewed and a second position where the main screen cannot be viewed (Col. 13, Ln. 31-35, FIG. 1A & 1B).

Regarding Claim **33**, a keyboard as claimed in claim 32, wherein **Sternglass et al.** teach that when the main screen is the second position it provides a physical barrier to the character input keys (Col. 13, Ln. 31-35, FIG. 1A & 1B).

6. Claims **24**, **25**, **27**, **29**, and **30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Willner (US Patent No. 5790103)** in view of **Partridge (US Patent Application Publication 2001/0048425)**.

Regarding Claim **24**, **Willner** teaches a keyboard as claimed in claim 19.

However, **Willner** does not teach the remapping of the command input keys when the keyboard is moved from the desktop to the hand-held configuration.

In the same field of endeavor, **Partridge** teaches when the keyboard is moved from the desktop configuration to the hand-held configuration functions associated with the command input keys are remapped so as to maintain the relative position of the functions of the command input keys in the hand-held configuration to that provided in the desktop configuration (i.e. remapping keys to corresponding to user's orientation)

(Col. 9, [364], [365], FIG. 34 & 35) for the benefit of remapping the command input keys so as to maintain the relative position of the functions of the command input keys in the hand-held configuration to that provided in the desktop configuration when the keyboard is moved from the desktop configuration to the hand-held configuration.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Willner** teaching of keyboard to **Partridge** teaching of remapping keys to corresponding to user's orientation in order to benefit of remapping the command input keys so as to maintain the relative position of the functions of the command input keys in the hand-held configuration to that provided in the desktop configuration when the keyboard is moved from the desktop configuration to the hand-held configuration.

Regarding Claim 25, a keyboard as claimed in claim 24, wherein **Partridge** teaches the first keyboard section further comprises a multidirectional key and a mouse stick and the command input keys are mapped to provide a plurality of trigger buttons so enabling the keyboard to be employed as a games controller (Col. 1, [0003], FIG. 4).

Regarding Claim 27, a keyboard as claimed in claim 24, wherein the first keyboard section comprises a representation of the function of the command input keys when the keyboard is in the hand-held configuration is an obvious Design Choice to positively locate the keys for activation by either including a representation of the function of the command input keys (i.e. labeling the command input keys on the

character keys side) or constructing the command input keys with different sizes and shapes.

Regarding Claim **29**, **Willner** teaches a keyboard as claimed in claim 19.

However, **Willner** does not teach the second keyboard section functions as a remote control device when the keyboard is moved to the hand-held configuration.

In the same field of endeavor, **Partridge** teaches the second keyboard section functions as a remote control device (Col. 1, [0003], FIG. 4) for the benefit of integrating many control devices into a single unit by utilizing the second keyboard section functions as a remote control device when the keyboard is moved to the hand-held configuration.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Willner** teaching of keyboard to **Partridge** teaching of the second keyboard section functions as a remote control device in order to benefit of integrating many control devices into a single unit by utilizing the second keyboard section functions as a remote control device when the keyboard is moved to the hand-held configuration.

Regarding Claim **30**, **Willner** teaches a keyboard as claimed in claim 19.

However, **Willner** does not teach teaches the second keyboard section comprises a mobile phone screen such that the second keyboard section functions as a mobile phone when the keyboard is moved to the hand-held configuration.

In the same field of endeavor, **Partridge** teaches the second keyboard section comprises a mobile phone screen (Col. 1, [0003], FIG. 4) for the benefit of integrating



many control devices into a single unit by utilizing a mobile phone screen such that the second keyboard section functions as a mobile phone when the keyboard is moved to the hand-held configuration.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Willner** teaching of keyboard to **Partridge** teaching of a mobile phone screen in order to benefit of integrating many control devices into a single unit by utilizing a mobile phone screen such that the second keyboard section functions as a mobile phone when the keyboard is moved to the hand-held configuration.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is: Uhlemann (US Patent Application Publication 2001/0024946).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH T. LAM whose telephone number is (571)270-3704. The examiner can normally be reached on M-F (7:30-5:00) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571 272 1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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